

Translation

PATENT COOPERATION TREATY PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 42052	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/ES2004/000111	International filing date (<i>day/month/year</i>) 11.03.2004	Priority date (<i>day/month/year</i>) 24.03.2003
International Patent Classification (IPC) or national classification and IPC		
Applicant CHIMIGRAF IBÉRICA SL		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: <ul style="list-style-type: none"> a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of 2 sheets, as follows: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input checked="" type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/ES	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/ES2004/000111

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- international search (Rule 12.3 and 23.1(b))
 - publication of the international application (Rule 12.4)
 - international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- the international application as originally filed/furnished
 the description:

pages 1-5 as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

- the claims:

nos. _____ as originally filed/furnished

nos.* 6-7 as amended (together with any statement) under Article 19

nos.* _____ received by this Authority on _____

nos.* _____ received by this Authority on _____

- the drawings:

sheets _____ as originally filed/furnished

sheets* _____ received by this Authority on _____

sheets* _____ received by this Authority on _____

- a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:

- the description, pages _____
- the claims, nos. _____
- the drawings, sheets/figs _____
- the sequence listing (*specify*): _____
- any table(s) related to sequence listing (*specify*): _____

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages _____
- the claims, nos. _____
- the drawings, sheets/figs _____
- the sequence listing (*specify*): _____
- any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/ES2004/000111

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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1. Statement

Novelty (N)	Claims	1-10	YES
	Claims		NO
Inventive step (IS)	Claims	1-10	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Reference is made to the following documents:

D01: GB 2211791 A, 12 July 1989

D02: EP 106628 A, 25 April 1984

The subject matter of the invention, as defined in the amended claims 1-10, relates to a process for producing a digital printing ink, as well as the thus produced ink. According to this process, the pigments are dispersed and diluted in acrylic monomers, the monofunctional acrylic monomer used being isobornyl acrylate, in a maximum proportion ranging from 10-25%, and the resulting ink is irradiated, producing a polymer which fixes the pigments to the support. The thus produced inks have appropriate viscosity and a dry feel after being exposed to a radiation source.

Document D01 discloses inks which can be radiation polymerised after being applied to a substrate and comprise a pigment, which is previously ground in a ball mill, dispersed in prepolymers of epoxy acrylate, polyester acrylate, etc..., together with a wetting agent, and dissolved in a mixture of monofunctional and

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/ES2004/000111

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

polyfunctional acrylic monomers in a proportion ranging from 10 to 40% by weight (page 7, line 17 - page 18, line 27), including isobornyl acrylate, tripropylene glycol acrylate, hexanediol diacrylate, trimethylolpropane triacrylate, etc..., the specific percentage of isobornyl acrylate mentioned in examples 1 and 3 (pages 10 and 11) ranging from 30 to 40%. Also described is the subsequent admixture of a photoinitiator which can be activated by ultraviolet radiation, visible radiation or electron bombardment (page 6, lines 3-6).

Document D02 discloses radiation polymerisable printing inks for application to rigid surfaces or autographic paper, the inks comprising a pigment micronized in a roller hammer mill, dispersed in a thermoplastic resin to which long-chain amines can be added as wetting agents, and diluted, until the appropriate viscosity is reached, in a monofunctional acrylic solvent such as isobornyl acrylate, or in a polyfunctional acrylic solvent such as hexanediol diacrylate, tripropylene glycol diacrylate, trimethylolpropane triacrylate, etc... in proportions ranging from 10 to 95% by weight, although the proportion of monofunctional acrylic monomers is not specified. Ketones and their derivatives are added to the composition as photoinitiators, and the composition is then exposed to ultraviolet radiation (pages 9-12 and 15-19).

None of the documents D01 and D02 discloses an ink composition having the features defined in claims 1-10 and the technical effect achieved in the present application.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/ES2004/000111

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Consequently, the new claims 1-10 are considered to be novel, to involve an inventive step and to be industrially applicable, as required by PCT Article 33(2), 33(3) and 33(4).

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/ES2004/000111

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

The proportion of isobornyl acrylate (10-24%) defined in the characterising part of claims 1 and 6 must be explicitly consistent with the proportion mentioned in the description. Consequently, the appropriate range should be 10 to 25%.